

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE  
STATE OF CALIFORNIA**



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Application of Pacific Gas and Electric Company  
To Revise Its Electric Marginal Costs, Revenue  
Allocation, and Rate Design

A. 06-03-005

**REPLY COMMENTS OF THE  
CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION  
ON DYNAMIC PRICING ISSUES**

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The California Large Energy Consumers Association (“CLECA”) provided extensive Opening Comments in response to the Assigned Commissioner’s Ruling (ACR) of August 22, 2007. CLECA agrees with the observation of many of the other parties who provided opening comments that the Commission should proceed with due deliberation as it considers how to introduce dynamic pricing for Pacific Gas & Electric Company (“PG&E”), Southern California Edison Company (“SCE”), and San Diego Gas & Electric Company (“SDG&E”).

In reviewing the comments filed on October 5, CLECA was surprised by the limited number of parties choosing to participate in the process. These issues will affect, or will certainly have the potential to affect all electric customers and the Commission should make a concerted effort to involve a wide range of customers in the process. Reviewing the comments that were submitted, it is evident that certain common themes appear.

**I. DYNAMIC PRICING APPLIES TO GENERATION ONLY**

The utilities’ comments were clear that dynamic pricing should be applied to generation-related cost recovery, and not to transmission and distribution (“T&D”) costs. CLECA heartily concurs. Whether T&D costs vary with time of use is an issue on which the utilities differ, but

none of them support recovery of what are essentially fixed T&D or customer-related costs through dynamic pricing.

CLECA is concerned about the comments of TURN and DRA which suggest that recovering T&D and customer-related costs through volumetric rates may be worthwhile in order to pursue energy efficiency or other policy goals, such as green house gas (“GHG”) reductions. We strongly disagree. At least for non-residential customers, such a policy represents a major cost shift to higher load factor customers, whose usage patterns actually improve the system load factor and promote the efficient utilization of utility assets.

More specifically, we disagree with TURN’s comments that:

“[t]he fact that certain costs may be fixed in nature does not necessarily imply that they should be collected through fixed charges, since charges that vary with usage have a much greater impact on achieving energy efficiency and GHG goals than fixed charges”,<sup>1</sup> and that “[r]ate design policy can also facilitate both energy efficiency and demand response by reducing the degree of reliance on demand charges and fixed customer charges and recovering more of the revenue requirement through energy charges. Customers can response more effectively to energy price signals and tailor their consumption accordingly. It is worth asking the question of whether demand charges will eventually become obsolete in a world with ubiquitous interval metering.”<sup>2</sup>

TURN is simply wrong. The recover of all such costs through volumetric rates has occurred for residential customers largely as a result of metering restrictions. Asserting that charges which vary with usage have a much greater impact in achieving energy efficiency (“EE”) and GHG reductions than fixed charges is like the tail wagging the dog. It suggests that cost causation should take second place to rates designed to induce certain kinds of behavior that are deemed desirable. Whatever the relationship between high usage of electricity for residential customers and lack of pursuit of EE, such a relationship does not necessarily apply to nonresidential customers. Large industrial customers use more electricity than smaller users

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<sup>1</sup> TURN Opening Comments, p. 16.

<sup>2</sup> Ibid., pp. 5-6.

simply because of their size and the nature of their operations (which are often 24/7). More importantly, some of the highest load factor customers have invested heavily in EE, but still use large numbers of kWh because of their production characteristics. We think efforts like the promotion of EE are important, but we strongly reject the idea that high load factor customers should pay higher rates than cost causation dictates to subsidize more EE for low load factor customers.

As CLECA and the utilities have pointed out, the costs of the distribution system and of customer access do not vary with the number of kWh consumed. Recovering these costs in per kWh charges would simply shift more of the costs of the fixed assets in the utility system to the largest users, although all customers have to be connected to the grid to get service regardless of how few kWh they buy. *It is the instantaneous demand they impose on the system and their need for access to the grid that determines what facilities are needed to serve them, not the kWh they buy.*

DRA makes similarly mistaken arguments.

DRA strongly supports marginal cost based rate designs. It also supports departures that have been made from strict marginal cost pricing for the sake of the environmental and social goals mentioned above. Setting the individual rate elements at marginal cost would recover marginal demand and customer costs entirely through demand and customer charges respectively. Yet there is a long history of recovering costs that are relatively fixed in the short run through volumetric rates to promote energy conservation. Indeed, such rates in the residential class are also highly inverted for this purpose. *This rate design furthermore protects smaller customers from the post-restructuring rate impacts.* (DRA opening comments, pp. 4-5, emphasis added.)

In response to this part of DRA's comments, we note that protecting smaller customers from post-restructuring rate impacts is antithetical to the Commission's goal of setting rates based on cost in order to provide price signals, which of course is the very essence of dynamic pricing.

Furthermore, DRA admits that there are problems with pursuing policy goals through such non-marginal-cost-based rate design.

These departures from marginal cost pricing are often justified on the basis that customer price demand response if one charged the marginal cost with no adjustment. It is important to note that the price elasticities themselves are revealed preferences. They reveal how customers trade off money, comfort, and the time it takes to research and install energy efficiency, demand response, and self generation measures. *Thus any departure from pure marginal cost pricing is really overriding individual preferences for the sake of the common good.* Such departures can also produce inter-customer subsidies. Ideally cost effectiveness evaluations of energy efficiency, demand response, and self generation should include these subsidies that are built into rates. Departures from marginal cost should be informed by the value of the externalities being used to justify these departures. Given the complexity of this kind of analysis, changes to existing rate design must be done carefully and deliberately and after much discussion. (DRA, p. 5, emphasis added.)

CLECA finds the comments of TURN and DRA in support of a policy of moving away from cost-based pricing to be unconvincing and inconsistent with the Commission's long-established, and sound policy of sending true cost-based price signals.

## **II. ARE THERE LIMITS ON THE TYPES OF CUSTOMERS FOR WHOM DYNAMIC PRICING IS APPROPRIATE?**

PG&E makes the following unsubstantiated comment:

There is a well-established consensus that the greatest demand response potential lies generally at the two "ends" of the electric customer spectrum as measured by size: among residential customers with significant air conditioning loads, and with the largest industrial and commercial customers with significant re-schedulable process loads. For smaller and mid-sized to moderately large sized commercial facilities, "everyday" energy efficiency opportunities probably offer greater opportunities for load reductions than would dynamic pricing options or new demand response programs targeted at only the highest load days. With these considerations in mind, PG&E urges the Commission to focus the greatest part of its attention on developing new dynamic pricing options and demand response programs for those customers with the greatest potential

for producing significant new demand reductions – meaning, for the largest industrial and commercial customers with significant process loads, together with residential customers with significant air conditioning usage. (PG&E, p. 5.)

CLECA is not sure of the source of this alleged consensus, since PG&E has provided no citations to studies supporting its position. Indeed, as shown in CLECA’s opening comments, there is evidence to the contrary. We disagree with PG&E’s statement that only residential A/C and large industrial process electricity users with process loads can respond to dynamic pricing.<sup>3</sup> Indeed, PG&E’s statements are not supported or supportable.

Lawrence Berkeley National Laboratory studies of Auto-DR results show that a wide variety of business customers can respond to prices, particularly if their energy management systems are set to respond to prices.<sup>4</sup> While the early Auto-DR studies have focused on a varied collection of larger commercial and institutional (“C&I”) customers, there is no reason to believe that smaller C&I customers cannot similarly respond. The above-cited Auto-DR study showed 7-12% demand reductions on moderate days and 11-16% demand reductions on hot days, for example.

It is important to understand that DR response to prices does not have to be 15-20% *on average* to have a major impact on the system. A 3% response would have a dramatic impact on operating reserves and has the potential to significantly reduce market clearing prices.<sup>5</sup> Furthermore, asking commercial or non-process industrial customers, or residential customers without central A/C, to reduce their loads by a few percent is not asking the impossible. These customers can reduce or shift the time of use of certain equipment (e.g. residential customers can do laundry and run dishwashers in the evening or early morning and commercial customers can make certain HVAC and lighting adjustments). The savings may not be as great as those

<sup>3</sup> We are not sure why PG&E includes large commercial customers, since by definition they do not have process loads.

<sup>4</sup> See, for example, “Automated Critical Peak Pricing Field Tests: 2006 Pilot Program Description and Results” LBNL Report 62218, June, 2007.

<sup>5</sup> See, for example, “Quantifying Demand Response Benefits in PJM”. Brattle Group for PJM and MADRI, January 2007 and “The Power of Five Percent: How Dynamic Pricing Can Save \$35 Billion in Electricity Costs”, Brattle Group Discussion Paper, May 16, 2007.

achievable through Auto-DR, but these customers should still see the prices their usage imposes on the system. The result may be increases in energy efficiency or load shifting or other measures that contribute to system benefits, even if they are not as well-targeted to the highest load hours.

We also pointed out in our opening comments that the period of time over which high dynamic pricing signals are sent affects response. For a CPP-type program, if the period is long, e.g. 6-7 hours, customer DR fatigue may set in. It may be appropriate to have customers divided, with each half receiving the high prices for half of the period.

There is one point on which we do agree with PG&E's comments about the responsiveness of certain groups of customers. *What residential A/C and industrial process users **can** do best is to respond by reducing their loads on short notice in the case of emergencies*, because A/C can be cycled and industrial customers can, at times, shut down certain equipment with substantial loads. These customers subscribe to *reliability* DR tariffs that take advantage of this quick response and large load drop capability and they are compensated through these tariffs. We discuss reliability DR later in these comments.

### **III. WILL CUSTOMERS BE DISAPPOINTED IN CPP BILL SAVINGS?**

SCE has questioned asserted that some dynamic pricing rate designs do not provide customers bill savings commensurate with the level of effort they may undertake in responding to high prices. SCE notes:

In market research of large customers (>200 kW), potential CPP bill savings proved to be lower than what a majority of customers would expect for a given level of response. (SCE, p. 27, no citation.)

We think this is a legitimate issue and one which the Commission should consider in greater detail. We note that in prior CPP proceedings the issue of the potential bill saving also

arose. If the potential savings are only 1%-2%, it is unlikely to stimulate much desire to change electricity usage.

#### **IV. RELIABILITY PROGRAMS**

CLECA agrees with SCE and PG&E that reliability programs are most likely the only way to get reliable amounts of same-day or short-term demand response.<sup>6</sup>

SCE says:

[t]he Commission should be cautious in relying too heavily on dynamic pricing programs to mitigate system emergencies. Dynamic pricing programs are voluntary and while the customer may pay more for electricity consumed during an event, the level of the price signal may not be sufficient to incentivize all customers to reduce load. Neither are there any explicit penalties associated with non-performance. The overall load reduction from dynamic pricing relies on changes in customer behavior and currently, SCE does not have sufficient experience with dynamic pricing on a large scale across all customer segments to be able to accurately predict performance during an event. Therefore retention of the hybrid and reliability programs is imperative. Additionally, in order to maximize participation in dynamic pricing programs, the dynamic rates should be designed so as to allow participation in reliability programs, yet avoid potential double payments. (SCE, p. 30.)

SCE recommends that the Commission consider the fact that load reductions from dynamic pricing rates are not as certain as those achieved through load control programs or SCE's other reliability programs. Therefore, reliability programs should always be considered an important element of the overall DR portfolio. Further, as will be discussed below, in order to maximize participation in dynamic pricing programs, the issue of dual participation in both dynamic pricing and reliability programs should be addressed in this proceeding." (SCE, p. 31.)

PG&E says:

Ideally, the reliability-oriented demand response tariffs and programs should provide customer load reduction resources that can be counted on

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<sup>6</sup> Perhaps some day with true scarcity pricing and enabling technology price-based DR will provide predictable amounts of same-day or short-term DR, but it is premature to predict when or if this will occur.



with a great deal of certainty to help improve electric system reliability at times when conventional supply-side generation resources may not be sufficient to meet load, or when the system or parts thereof might otherwise be constrained.

Reliability-oriented DR tariffs will tend to offer a more dependable resource for load drop when compared to dynamic rates. Much DR can be obtained through hourly price signals that give customers an incentive to shift their loads off-peak. However, the levels to which load reductions occur through dynamic pricing may vary from day to day according to customer preferences and circumstances. Customers may feel they can save some money by shifting their load, and will often do so, but they may not feel the urgency to do so. Most reliability programs have punitive measures associated with them if load is not dropped by the participant. These measures help provide the program participant with a sense of urgency to curtail.

PG&E's A/C program is an exception to this general rule, as it is a reliability program but does not have a penalty for not dropping load. A fairly reliable amount of load relief is still expected through this program though because A/C load control devices are directly controlled by the utility, the program is designed to minimize customer discomfort, and it is being marketed for its social and environmental benefits, not just as a way to save money. Participants will presumably stay on the program and participate if they know that the program is only operated in an emergency.

Finally, dynamic pricing programs will always require a certain amount of advance notice to customers. For example, for the CPP and DBP programs, notice is given to customers to curtail on a day-ahead basis. This notice requirement reduces the utilities ability to call the programs for unforeseen conditions, such as a forced shutdown or a local emergency. (PG&E, p. 26.)

CLECA disagrees with DRA's comments that dynamic pricing can ultimately replace reliability programs, although DRA admits that this is just a possibility to be determined at some point in the future:

Currently, dynamic rates essentially are economically dispatched demand response programs and A/C cycling is a reliability program. Eventually, when more experience is gained of how customers respond to dynamic

rates, they could replace A/C cycling as a reliability program. But this possibility is probably several years away. (DRA, p. 24.)

It is important to note that DRA cites no evidence that dynamic pricing can ever replace reliability-based DR. Furthermore, DRA's claim that the Commission's resource adequacy (RA) program will diminish the need for reliability DR is similarly misguided, because it presumes that all reliability problems come from generation inadequacy, which is patently untrue. DRA states:

The current purpose of the current reliability-oriented demand response programs is to provide "insurance" coverage in the event of stage 2 and stage 3 emergencies. With RAR guidelines, the probability of such events is decreasing, calling into question the cost effectiveness of such insurance. (DRA, p. 27.)

However, contrary to DRA's assertion a review of the warnings, alerts, and emergencies called by the CAISO shows that many of them have been transmission emergencies, not caused by insufficient generation.<sup>7</sup>

## **V. FUTURE DATA FROM THE CAISO ASSOCIATED WITH THE IMPLEMENTATION OF MRTU**

There was general consensus in the opening comments that developing capacity markets will act to dampen hourly prices in the wholesale markets. There was also recognition that it will take significant effort to coordinate retail rate design with the pricing information produced by the CAISO with the implementation of MRTU:

- MRTU will provide day-ahead prices but it will take some time (over a year) for the day-ahead market to stabilize.
- The combination of higher planning reserve margins and the potential for greater generator compensation through capacity markets, particularly a possible centralized capacity market and the CAISO's proposed high level of payment to existing generators through its ICPM will suppress prices in the day-ahead and real time energy markets, dampening the price signals from these markets to end use customers.

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<sup>7</sup> "Cumulative Totals of Restricted Maintenance Operations, Alert, Warning, Emergency, and Power Watch Notices Issued from 1998 to Present", CAISO, dated 9/7/2007

This issue was discussed at length by SCE and DRA:

As discussed above, as long as there are strong resource adequacy requirements, short-run prices will not include an adequate capacity pricing component and market clearing prices will not be an efficient means for designing rates. Until MRTU data is analyzed to determine the degree to which capacity costs are embedded within the hourly prices, the rates containing a constructed capacity component are as useful as the market prices at achieving DR objectives. For non-peak period, the MRTU pricing more closely resembles marginal cost (energy only) pricing as it represents the market price absent the capacity adders that should be present only during peak load conditions. (SCE, p. 21, footnote omitted.)

In setting dynamic rates, it should be noted that the wholesale market is changing in such a way that energy prices are not currently showing much variation between the five TOU periods currently used for commercial and industrial TOU rates. Adding a CPP period helps, but beyond that, the tariff may become too complicated for customers without enabling equipment. What is primarily changing the wholesale market is the imposition of resource adequacy requirements. This is causing a trend where producers recover relatively more of their costs through capacity contracts and call options than they do through their energy prices than has been the case in the past. A centralized capacity market (see Question #4), if one gets implemented, will further this trend. What this means is that the true cost of reliability is captured in neither the traditional calculation of marginal energy costs nor the cost of capacity. The cost of capacity is generally reflected in marginal cost studies using a CT proxy. Yet the CT cost might be lower than what utilities actually pay for capacity. Rate designers in general do not have a good handle on this issue because actual utility procurement cost data have been excluded from rate design proceedings on confidentiality grounds. If this phase of the proceeding could resolve this disconnect between rate design and what's really happening, that would greatly further the cause of accurately time-differentiating rates in dynamic tariffs.

Granted these capacity contracts and call options are themselves fixed costs once the utility enters into such contracts. But it may make sense to time differentiate them using relative loss-of-load probabilities ("LOLP") as is currently done with the CT. (DRA, pp. 17-18.)

- The CAISO's development of scarcity pricing needs greater coordination with retail rate making.

This issue was discussed by SCE:

It will be imperative to fully understand how the ISO plans to implement its scarcity pricing requirement to determine how to incorporate capacity prices into the retail rate design. At the very least, temporal alignments will need to be considered as more successful dynamic price response programs are triggered on a day-ahead basis. Elements of incorporating the DR programs into the MRTU processes have been documented in the draft Demand Response Resource Users Guide and the specifics associated with these recommendations will need further refinement. Again, temporal alignments need to be considered as the integration of demand response into the hour-ahead markets presumes a higher level of consumer awareness and response than that documented in California's Statewide Pricing Pilot results or elsewhere. (SCE, pp. 13-14.)

## VI. CONCLUSION

CLECA continues to be very interested in the Commission's pursuit of dynamic pricing. The comments and reply comments received in this docket should provide some insight into the directions in which the Commission might venture, but are inadequate to determine Commission policy. CLECA has tried to support its recommendations with studies performed on actual pricing experiments and pilots and hopes that the upcoming workshops will provide more data to support (or not support) new policy directions.

Dated: October 19, 2007

Respectfully submitted,

/s/

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CLECA0586/DYNAMIC PRICING/CLECA REPLY COMMENTS 10.19.07

**CERTIFICATE OF SERVICE**

I, the undersigned, declare that I am employed in the County of Contra Costa, California, that I am over the age of eighteen years and not a party to the within action. My business address is 1500 Newell Avenue, Fifth floor; Walnut Creek, CA 94596.

On October 19, 2007, I electronically served a true copy of the document described as **REPLY COMMENTS OF THE CALIFORNIA LARGE ENERGY CONSUMERS ASSOCIATION ON DYNAMIC PRICING ISSUES** : attached hereto on the accompanying service list

Executed on October 19, 2007 at Walnut Creek, California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

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/s/  
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